



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,018	02/18/2000	Ofer Shalem	081-01286	9327

7590 09/11/2002

William H Dippert Esquire
Cowan Liebowitz & Latman PC
1133 Avenue of the Americas
New York, NY 10036-6799

EXAMINER

WARD, RONALD J

ART UNIT	PAPER NUMBER
----------	--------------

2685

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/504,018

Applicant(s)

SHALEM ET AL.

Examiner

Ronald J Ward

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 6, 9-12 and 26 is/are ~~allowed~~ objected to.
- 6) ☒ Claim(s) 1-3, 5, 7-8, 13-25, 27-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-8, 13-15, 19, 21-25, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holden et al. (U.S. Patent Number 5020058) in view of Balachandran et al. (U.S. Patent Number 6115394).

As to **claim 1**, Holden discloses a method of forwarding signals over a communications link, comprising:

receiving, at a first station of a network, a packet of signals having a data payload directed to a second station (see col. 1 lines 14-34);

determining whether the data payload will be used by the second station (see col. 3 lines 22-41); and

forwarding the entire packet if the data payload will be used and not forwarding the entire packet if the data payload will not be used (see col. 3 lines 41-47).

Holden recites that the method is applicable to all types of digital transmission facilities (see col. 7 lines 14-17). However, Holden fails to explicitly recite the application of the method to a cellular fixed network where the stations are a first base station and a second base station.

In an analogous art, Balachandran discloses a method that solves the same problem. The method of Balachandran makes more efficient use of bandwidth by replacing a header with a

Art Unit: 2685

smaller bandwidth alias (see abstract). Balachandran recites that “The teachings of the present invention may be beneficial to any communication link where the amount of data to be transmitted over the communication link is to be reduced. Examples of such communication links includes low-speed modem communications, satellite communication links, cellular communication links, radio frequency communication links, microwave communication links or any communication link with a rate schedule based on the amount of data transferred across the communication link” (see col. 4 lines 43-52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Holden to base stations in cellular networks, which is considered to include a fixed cellular network, as taught by Balachandran. One of ordinary skill in the art would have been motivated to make such a modification because a fixed cellular network is an example of a communication link where the amount of data to be transmitted over the link is to be reduced, as taught by Balachandran.

As to **claim 2**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the received stream of packets comprises packets of the same size (see col. 4 lines 10-14, col. 5 lines 21-23), and that they are received at equal intervals of time (called Null Time Delay in Holden) (see col. 4 lines 65-67).

As to **claim 3**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the received packet includes coded digital voice signals (see col. 1 lines 31-34).

As to **claim 7**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the determination of whether the

Art Unit: 2685

data payload will be used comprises determining based on information retrieved from a header of the packet (see col. 3 lines 38-42).

As to **claim 8**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the determination of whether the data payload will be used is performed before forwarding any part of the packet (see col. 3 lines 42-44).

As to **claim 13**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that not forwarding the entire packet if the data payload will not be used comprises not forwarding any of the packet (see col. 3 lines 42-44).

As to **claim 14**, the combination of Holden and Balachandran disclose everything as applied to claim 13 above. In addition, Holden discloses that a message is forwarded in place of a plurality of packets not forwarded (see col. 3 lines 44-48, col. 4 lines 42-45).

As to **claim 15**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that forwarding the entire packet comprises forwarding the packet along with a "heartbeat packet" (see col. 4 lines 42-50), which is considered equivalent to a connection indication field.

As to **claim 19**, Holden discloses a method of forwarding signals over a communications link, comprising:

receiving, at a first station of a network, a plurality of packets (see col. 1 lines 14-34); and forwarding the entire packet of at least one of the packets and not forwarding the entire packet of at least one of the packets (see col. 3 lines 41-48).

Art Unit: 2685

Holden recites that the method is applicable to all types of digital transmission facilities (see col. 7 lines 14-17). However, Holden fails to explicitly recite the application of the method to a cellular fixed network where the stations are a first base station and a second base station.

For the same reasons set forth in the argument for claim 1, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Holden to base stations in cellular networks, which is considered to include a fixed cellular network, as taught by Balachandran.

As to **claim 21**, the combination of Holden and Balachandran disclose everything as applied to claim 19 above. In addition, Holden discloses that the step of forwarding the entire packet of at least one of the packets comprises forwarding the entire packet of less than a predetermined percentage of the received packets (see col. 3 lines 44-48). Since only 1 out of 16 packets is forwarded when the packets are determined to contain an identical repeating pattern, the quantity of packets transmitted is less than the predetermined percentage of 7%.

As to **claim 22**, Holden discloses a method for decompressing packets being forwarded over a link between stations, comprising:

receiving signals representing packets belonging to a plurality of connections (see col. 1 lines 14-34);

forwarding packets which were received in their entirety (see outgoing data in Figure 7);
and

generating replacement packets in place of packets not received in their entirety (see col. 6 lines 5-8).

Art Unit: 2685

For the same reasons as set forth in the argument for claim 1, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Holden to base stations in cellular networks, as taught by Balachandran.

As to **claim 23**, Holden discloses an apparatus for compressing packets being forwarded over a link between stations, comprising:

an input interface which receives packets having a data payload; (see USER INTERFACE in Figure 2)

a processor which determines whether the data payload carries meaningful information; (see col. 3 lines 38-42) and

an output interface which forwards the entire packet if the data payload carries meaningful information and does not forward the entire packet if the data payload does not carry meaningful information (see TO MUXBUS in Figure 2 and see col. 3 lines 42-48).

For the same reasons as set forth in the argument for claim 1, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Holden to base stations in cellular networks, as taught by Balachandran.

As to **claim 24**, the combination of Holden and Balachandran disclose everything as applied to claim 23 above. In addition, Holden discloses that the SDP (synchronous data pad), which determines whether the data payload carries meaningful information, also generates the packets (see col. 3 line 58 through col. 4 line 50).

As to **claim 25**, the combination of Holden and Balachandran disclose everything as applied to claim 23 above. In addition, Holden discloses the apparatus wherein the processor

Art Unit: 2685

examines a header of the packets to determine whether the data payload is meaningful. (see col. 3 lines 38-42).

As to **claim 27**, the combination of Holden and Balachandran disclose everything as applied to claim 23 above. In addition, Holden discloses a delay unit in Figure 2 (see pair of 7 bit registers) which delays forwarding the packets while the processor determines whether the data payload is meaningful (see col. 3 lines 38-44).

As to **claim 28**, Holden discloses an apparatus for decompressing packets being forwarded over a link between stations, comprising:

an input interface which receives signals belonging to a plurality of connections (see FROM MUXBUS in Figure 4);

a forwarding unit which forwards packets which were received in their entirety (see BUFOUT in Figure 4 and see col. 5 lines 25-27) ; and

a processor which generates replacement packets in place of packets not received in their entirety (see Figure 4 and see col. 6 lines 5-8)

For the same reasons as set forth in the argument for claim 1, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Holden to base stations in cellular networks, as taught by Balachandran.

As to **claim 29**, the combination of Holden and Balachandran disclose everything as applied to claim 28 above. In addition, Holden discloses that the processor generates replacement packets from received headers (see col. 5 lines 25-44), wherein the "last N bits of the stream" (see col. 5 lines 26-27) comprise a received header.

As to **claim 30**, the combination of Holden and Balachandran disclose everything as applied to claim 28 above. In addition, Holden discloses that the processor generates a plurality of replacement packets based on a single message (see col. 5 lines 25-44).

2. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Holden and Balachandran as applied to claim 1 above, and further in view of Gleeson et al. (U.S. Patent Number 5627829).

The combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the determination of whether a data payload will be used by the second station is based on whether a certain bit pattern is repeated (see col. 3 lines 38-42). However, Holden fails to explicitly recite the step of determining whether the second station will forward or discard the contents of the payload as a means for determining whether the data payload will be used by the second station.

In an analogous art, Gleeson discloses a communications network wherein network traffic is reduced by discarding certain data packets. The determination of which packets to discard is based on whether a packet is “appropriate for the wireless network” (see col. 18 lines 18-25). It is considered that a receiving station typically forwards “appropriate” data, and typically discards inappropriate data.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Holden and Balachandran to make a determination of whether data payloads will be used by a second station based on determining whether the second station will forward or discard the contents of the payload, as taught by

Art Unit: 2685

Gleeson. One of ordinary skill in the art would have been motivated to make this modification because it further contributes to the problem being addressed by Holden, reducing bandwidth and Gleeson teaches discarding a data payload based on criteria that Holden neither considered nor precluded.

3. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Holden and Balachandran as applied to claim 1 above, and further in view of Gollub (U.S. Patent Number 5018136).

The combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, Holden discloses that the method is applicable to a T1 line, which is a tunnel having several channels and can support multiple connections. However, Holden and Balachandran fail to explicitly recite that the tunnel is used by a number of connections greater than the number of channels in the tunnel.

In an analogous art, Gollub discloses a packet voice/data communication system wherein a tunnel is used by a number of connections greater than the number of channels in the tunnel (see col. 2 lines 56-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Holden and Balachandran to forward packets through a tunnel used by a number of connections greater than the number of channels in the tunnel, as taught by Gollub. One of ordinary skill in the art would have been motivated to make this modification because it increases the potential capacity of the system.

Art Unit: 2685

4. **Claims 17-18, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Holden and Balachandran as applied to claim 1 above, and further in view of Kay et al. (U.S. Patent Number 5299198).

As to **claim 17**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, the argument applied to claim 1 above has established that the combination of Holden and Balachandran applies to any communication link where the amount of data to be transmitted over the communication link is to be reduced. In this case, the link being considered is between a first base station and a second base station. Neither Holden nor Balachandran explicitly disclose a base station comprising a base transmission station.

In an analogous art, Kay discloses a base station communication link, wherein inactive periods during conversations are exploited to increase capacity (see col. 3 lines 25-34). Kay discloses that “[t]he base station subsystem comprises one or more base stations where each base station includes access to...one or more Base Transceiver Stations (BTS)” (see col. 1 lines 58-63). Kay further discloses in Figure 3 that the BTS is used to communicate with the mobile units (also see col. 2 lines 26-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the combination method of Holden and Balachandran to a base station communication link, wherein the base stations comprised base transmission stations, as taught by Kay. One of ordinary skill in the art would have been motivated to make this modification because the teaching of Kay demonstrates that a standard base station comprises a base transmission station for communicating with mobile stations.

Art Unit: 2685

As to **claim 18**, the combination of Holden and Balachandran disclose everything as applied to claim 1 above. In addition, the argument applied to claim 1 above has established that the combination of Holden and Balachandran applies to any communication link where the amount of data to be transmitted over the communication link is to be reduced. In this case, the link being considered is between a first base station and a second base station. Neither Holden nor Balachandran explicitly disclose a base station comprising a base station controller.

In an analogous art, Kay et al. discloses a base station communication link, wherein inactive periods during conversations are exploited to increase capacity (see col. 3 lines 25-34). Kay et al. disclose that “[t]he base station subsystem comprises one or more base stations where each base station includes access to at least one Base Station Controller (BSC)...The BSC is responsible for performing cell management, channel management and intra-BSC handoffs” (see col. 1 lines 58-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the combination method of Holden and Balachandran to a base station communication link, wherein the first base station comprised a base station controller, as taught by Kay. One of ordinary skill in the art would have been motivated to make this modification because the teaching of Kay demonstrates that a base station controller is typically used in a base station for performing cell management, channel management and intra-BSC handoffs..

As to **claim 32**, Holden discloses a system for forwarding packets from and to network nodes, comprising:

a transmission station which generates a stream of packets each having a data payload (see col. 1 lines 14-41 and see USER INTERFACE in Figure 2);

a compression unit which determines whether the data payload carries meaningful information, forwards the entire packet of packets which carry meaningful information and does not forward the entire packet of packets which do not carry meaningful information (see col. 3 lines 38-48); and

a controller which receives the forwarded packets and generates replacement packets for packets not forwarded in their entirety (see Figure 4 and see col. 6 lines 5-8).

Holden recites that the system is applicable to all types of digital transmission facilities (see col. 7 lines 14-17). Also, as argued in the rejection of claim 1, the combination of Holden and Balachandran applies to the communication link between two base stations of a fixed cellular network. However, Holden and Balachandran fail to explicitly recite that the first base station comprises a base transmission station, which generates the stream of packets and that the second base station comprises a base station controller, which receives the forwarded packets.

In an analogous art, Kay discloses a base station communication link, wherein inactive periods during conversations are exploited to increase capacity (see col. 3 lines 25-34). Kay et al. disclose that “[t]he base station subsystem comprises one or more base stations where each base station includes access to at least one Base Station Controller (BSC) and one or more Base Transceiver Stations (BTS). The BSC is responsible for performing cell management, channel management and intra-BSC handoffs” (see col. 1 lines 58-63). Kay further discloses in Figure 3 that the BTS is used to communicate with the mobile units (also see col. 2 lines 26-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination system of Holden and Balachandran to apply to a base station communication link wherein a base transmission station was used to generate the

Art Unit: 2685

stream of packets and a base station controller was used to receive the forwarded packets, as taught by Kay. One of ordinary skill in the art would have been motivated to make this modification because the teaching of Kay shows that a standard base station of the background art uses a base transmission station and base station controller for the purposes claimed.

5. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Holden and Balachandran as applied to claim 19 above, and further in view of Sharma et al. (U.S. Patent Number 5546395).

The combination of Holden and Balachandran discloses everything as applied to claim 19 above. In addition, Holden recites that the method is protocol independent and applicable to all types of digital transmission facilities, including synchronous transmission (see col. 7 lines 14-19). However, Holden and Balachandran fail to explicitly recite receiving packets of a plurality of mobile units the packets of each mobile unit being received at a fixed rate.

In an analogous art Sharma et al. disclose that a wide variety of modulation standards have been promulgated by international groups for communication in the voice band, wherein throughput rate of voice and data is typically assumed to be fixed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Holden and Balachandran to receive packets of a plurality of mobile units the packets of each mobile unit being received at a fixed rate. One of ordinary skill in the art would have been motivated to make this modification because international standards typically assume a fixed rate in voice and data communications.

Art Unit: 2685

6. **Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gollub (U.S. Patent Number 5018136) in view of Kay et al.

Gollub discloses, in Figure 1, an apparatus for forwarding packets through a fixed telephone network, comprising:

a terminal station (8b) having an interface to telephone units (10b) which receives packets of up to a total first amount of bandwidth;

one or more first links (18), having a total second amount of bandwidth, through which the terminal station receives packets; and

one or more second links (22), having a total third amount of bandwidth which is smaller than the sum of the first and second amounts of bandwidth, through which the terminal station forwards packets (see col. 7 lines 14-20). This is the case in Gollub, because the speech processor boards (12b) compress the first amount of bandwidth (see col. 2 lines 66-68, col. 3 lines 1-16).

Gollub fails to explicitly recite the application of the apparatus to a fixed cellular network, wherein the terminal station is a base transmission station having an interface to mobile units.

In an analogous art, Kay discloses a cellular network, wherein inactive periods during conversations are exploited to increase capacity (see col. 3 lines 25-34). Kay et al. disclose that “[t]he base station subsystem comprises one or more base stations where each base station includes access to...one or more Base Transceiver Stations (BTS)” (see col. 1 lines 58-63). Kay further discloses in Figure 3 that the BTS has an interface with the mobile units (also see col. 2 lines 26-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Gollub to apply to a cellular network, as taught by Kay. A fixed cellular network is considered a particular type of cellular network and is encompassed by the teachings of Kay. One of ordinary skill in the art would have been motivated to make this modification because installing a wired telephone service is prohibitively expensive in certain situations and a fixed cellular network offers similar services but is wireless.

7. **Claims 33-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beever et al. (U.S. Patent Number 5699356) in view of Holden et al.

As to **claim 33**, Beever discloses an apparatus for forwarding packets through a cellular network, comprising:

a base transceiver station, considered equivalent to a base transmission station, having an interface to mobile units which receives packets of up to a total first amount of bandwidth (see col. 3 lines 33-36);

one or more first links, having a total second amount of bandwidth, through which the base transmission station receives packets; and

one or more second links, having a total third amount of bandwidth, through which the base transmission station forwards packets (see col. 3 lines 36-43, also see Figure 1).

Beever also discloses that it is desirable to conserve bandwidth in this network (see col. 1 lines 60-67). However, Beever does not explicitly recite that the third amount of bandwidth is smaller than the sum of the first and second amounts of bandwidth.

In an analogous art, Holden discloses an apparatus for forwarding signals over a communications link, comprising:

a transmission station (Figure 2) having an interface to a communication units (USER INTERFACE) which receives packets of up to a total first amount of bandwidth;

one or more links (TO MUXBUS), having a total second amount of bandwidth which is smaller than the first amount of bandwidth, through which the transmission station forwards packets (see col. 1 lines 35-41).

Holden also discloses that the apparatus is protocol independent and applicable to all types of digital transmission facilities (see col. 7 lines 14-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bandwidth conserving apparatus of Holden with the base transmission station of Beever. One of ordinary skill in the art would have been motivated to make this combination because the bandwidth conserving apparatus of Holden is applicable to any digital transmission facility and Beever teaches that it is beneficial to conserve bandwidth in a network having base transmission stations with first and second receiving links.

As to **claim 34**, the combination of Beever and Holden discloses everything as applied to claim 33 above. In addition, Holden's apparatus and method can be applied to both sets of receiving links in Beever. Thus, the third amount of bandwidth is smaller than the second amount of bandwidth in cases where the compression is sufficiently effective or where the first amount of bandwidth is sufficiently small.

As to **claim 35**, the combination of Beever and Holden discloses everything as applied to claim 33 above. In addition, Holden discloses that the compression unit statistically compresses

Art Unit: 2685

the packets (see col. 3 lines 44-47). If the compression unit is combined with the base transmission station of Beever, then it can be said that the combination base transmission station of Beever and Holden statistically compresses the packets received through the interface of the mobile units and through the one or more first links, into the second links.

As to **claim 36**, the combination of Beever and Holden discloses everything as applied to claim 33 above. In addition, Holden does not disclose whether it is preferable to apply the compression unit externally or internally to a transmission facility. Thus it is a matter of preference whether the compression unit is to be considered internal or external to the base transmission station of Beever. Also, the compression unit of Holden statistically compresses packets (see col. 3 lines 44-47).

As to **claim 37**, Beever et al. discloses, in Figure 1, a telecommunications system operative in a cellular network comprising:

one or more first base stations (16) each connected to a second base station (15) via first transmission paths having first bandwidths, where said first bandwidths may be equal or different from each other; and

a third base station (14) connected to said second base station via a second transmission path having a second bandwidth.

Beever also discloses that it is desirable to conserve bandwidth in this network (see col. 1 lines 60-67). However, Beever does not explicitly recite that the second bandwidth is substantially lower than the sum of said first bandwidths.

In an analogous art, Holden discloses an apparatus for forwarding signals over a communications link, comprising:

Art Unit: 2685

a transmission station (Figure 2) having an interface to a communication units (USER INTERFACE) which receives packets of up to a total first amount of bandwidth;

one or more links (TO MUXBUS), having a total second amount of bandwidth which is smaller than the first amount of bandwidth, through which the transmission station forwards packets (see col. 1 lines 35-41).

Holden also discloses that the apparatus is protocol independent and applicable to all types of digital transmission facilities (see col. 7 lines 14-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the bandwidth conserving apparatus of Holden with a base station of Beever's network. Applying the apparatus to only base station (15) would make the second bandwidth substantially lower than the sum of said first bandwidths. One of ordinary skill in the art would have been motivated to make this combination because the bandwidth conserving apparatus of Holden is applicable to any digital transmission facility and Beever teaches that it is beneficial to conserve bandwidth in a network having base stations. Also, in order to conserve resources, the modification could be made only to those base stations where the bandwidth in the outgoing channel is excessively high. For example, suppose the mobile traffic coming through base station (15) is extremely high, but base station (16) has little or no usage. The apparatus of Holden can be applied to base station (15) only and thereby lower the bandwidth in the channel that suffers the most.

Allowable Subject Matter

Art Unit: 2685

8. **Claims 4, 6, 9-12, and 26** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claim 4**, the prior art fails to provide for a method wherein a first base station determines whether the contents of a payload will be decoded by a second base station.

As to **claim 6**, the prior art fails to provide for a method wherein a first base station determines whether a data payload will be used by a second base station based on information retrieved from a signaling line corresponding to the link.

As to **claims 9-12**, the prior art fails to provide for a method wherein a first base station determines whether a data payload will be used by a second base station after forwarding at least part of the packet.

As to **claim 26**, the prior art fails to provide for an apparatus wherein its output interface begins to forward packets before a processor, which determines whether the data payload in the packets carries meaningful information, determines whether the data payload is meaningful.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald J. Ward whose telephone number is (703) 305-5616. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703) 305-4385.

Art Unit: 2685

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

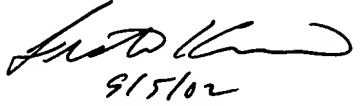
or faxed to:

(703) 872-9314 (Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

RJW

September 4, 2002


9/5/02
LESTER G. KINCAID
PRIMARY EXAMINER